

Claims

- [c1] 1. An organic light emitting device, comprising:
- an anode layer formed on a substrate;
 - a first mixing layer formed over the anode layer, wherein a material of the first mixing layer is a mixture of a hole transport material and an electron transport material;
 - a mixing layer formed on the first mixing layer; wherein a material of the mixing layer is a mixture of an organic light emitting material, the hole transport material and the electron transport material;
 - a second mixing layer formed on the mixing layer, wherein a material of the second mixing layer is a mixture of the hole transport material and the electron transport material; and
 - a cathode layer formed over the second mixing layer;
- wherein, when a volume ratio of the hole transport material to the electron transport materials in the mixing layer is X%, a volume ratio of the hole transport material to the electron transport materials in the first mixing layer decreases gradually from 99% to X% starting from a surface adhered to the anode layer, wherein a volume ratio of the hole transport material to the electron transport material in the second mixing layer increases grad-

ually from X% to 99% starting from a surface adhered to the mixing layer.

- [c2] 2. The organic light emitting device of claim 1, wherein further comprises a hole injection layer between the first mixing layer and the anode layer.
- [c3] 3. The organic light emitting device of claim 1, wherein further comprises an electron injection layer between the second mixing layer and the cathode layer.
- [c4] 4. The organic light emitting device of claim 1, wherein the volume ratio of the hole transport material to the electron transport material in the mixing layer is 50%, whereby then the volume ratio of the hole transport material to the electron transport material in the first mixing layer decreases gradually from 99% to 50% starting from the surface adhered to the anode layer, and the volume ratio of the hole transport material to the electron transport material in the second mixing layer increases gradually from 50% to 99% starting from the surface adhered to the mixing layer.
- [c5] 5. The organic light emitting device of claim 1, wherein a material of the anode layer comprises a transparent conductivity material or a non-transparent conductivity material.

- [c6] 6. The organic light emitting device of claim 1, wherein a material of the cathode layer comprises a transparent conductivity material or a non-transparent conductivity material.
- [c7] 7. An organic light emitting device, comprising:
an anode layer formed on a substrate;
a hole transport layer formed over the anode layer;
a mixing layer formed on the hole transport layer;
wherein a material of the mixing layer is a mixture of an organic light emitting material, a hole transport material and an electron transport material, wherein a volume ratio of the hole transport material to the electron transport material in the mixing layer decreases gradually from 99% to 1% from the surface adhered to the hole transport layer;
an electron transport layer formed on the mixing layer;
and
a cathode layer formed over the electron transport layer.
- [c8] 8. The organic light emitting device of claim 7, wherein further comprises a hole injection layer between the hole transport layer and the anode layer.
- [c9] 9. The organic light emitting device of claim 7, wherein further comprises an electron injection layer between the

electron transport layer and the cathode layer.

[c10] 10. The organic light emitting device of claim 7, wherein a material of the anode layer comprises a transparent conductivity material or a non-transparent conductivity material.

[c11] 11. The organic light emitting device of claim 7, wherein a material of the cathode layer comprises a transparent conductivity material or a non-transparent conductivity material.